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Measuring Emotion Regulation in Adolescent Females

by

Lynne Marie Kostiuk



A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment  
of the requirements for the degree of Master of Education

in

Counselling Psychology

Department of Educational Psychology

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University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Measuring Emotion Regulation in Adolescent Females submitted by Lynne Marie Kostiuk in partial fulfillment of the requirements for the degree of Master of Education in Counselling Psychology.





## Abstract

The purpose of this research was to create the Emotion Regulation Indicator (ERI) to inform future instrument development. Personal emotional experiences of adolescent females with conduct problems previously collected (Kostiuk & Fouts, 2002) provided content for four parent-adolescent scenarios. Systematic qualitative and quantitative questions in emotional, behavioral, cognitive, and social domains formed the structure of the ERI. The ERI required participants to recall parent-adolescent interactions and self-report emotional experiences by a) rating the presence of positive and negative emotions before and after engaging in regulation strategies, b) indicating regulation strategies, c) describing expected goals, d) rating goal success, and e) indicating alternative strategies. Twelve adolescent girls aged 13-17 years from the community and treatment centers for conduct problems completed the ERI. Emotion regulation patterns were analyzed across groups. The fifty emotion regulation instrument items formulated on the basis of this study are expected to distinguish emotion regulation abilities for girls with conduct problems.





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## Measuring Emotion Regulation in Adolescent Females

### Introduction

Regained interest in the regulatory aspects of emotional responding has engendered the construct of emotion regulation (Garber & Dodge, 1991). This regulatory function occurs as a result of dynamic interrelations between emotional, behavioral, social, and cognitive processes (Kopp, 1989). Each of these processes represents a “response domain,” which Garber and Dodge (1991) have conceptually organized into three form domains that operate to regulate emotions: intradomain (i.e., relating within a single domain), interdomain (i.e., relating across domains), and interpersonal domain (i.e., relating with others, environment).

In contrast, emotion dysregulation can occur as a result of these processes or response domains failing to activate or interrelate. Symptoms of chronic dysregulation (e.g., acute anxiety, unabated pain, behavioral excesses, or debilitating withdrawal) are characteristic of several childhood psychopathologies (Dodge, 1991). Oppositional Defiant/Conduct Disorders describe prototypical chronic dysregulation in the following domains a) emotional - lack of concern for feelings of others, lack of guilt or remorse, blaming others for their misdeeds, irritability, low frustration tolerance, b) behavioral - cruelty to animals, initiation of physical fights, c) social - defiance of authority figures, disrespect of others person and property, and d) cognitive - attributions and anticipation of consequences (American Psychiatric Association, 1994). Suggesting that emotions are being dysregulated due to failures in multiple domains.

Although symptoms of conduct problems describe emotion dysregulation across many response domains, limited research has been conducted to examine the role of



emotional processes. Emotional processes may play a particular etiological role in female conduct problems since females are typically socialized to be more emotionally aware, act-nice, and control their negative feelings (Davis, 1995; Malatesta-Magai, 1991). Lytton and Romney (1991) found that parents do not reliably differentiate between the amount said, warmth, or independence given to sons or daughters. However, results indicated that parents were displaying more prohibition of aggression and increased warmth towards daughters. They proposed that variances in parental treatment may still affect boys and girls differently, suggesting that girls may be more sensitive to the lack of nurturance and warmth. Therefore, girls may detect less nurturing interactions by parents, which may result in disinhibited aggressive behaviors that would otherwise be controlled. These findings suggest that emotional processes within parent-child relationships play a role in aggressive behaviors in females. Recently, Kostiuk and Fouts (2002) have proposed a female-specific etiology for female conduct problems and connected emotional processes to the development of female aggressive and disruptive behaviors. They asserted that the development of conduct problems for females might occur from early emotional processes that develop within the parent-child relationship.

This study attempts to build upon this research by gaining information from cognitive, social, emotional, and behavioral domains of emotion regulation to contribute to scale development for measuring emotion regulation. The purpose of this research was to a) create the Emotion Regulation Indicator (ERI) and b) obtain qualitative and quantitative emotion regulation patterns to inform the creation of instrument items for future scale development.



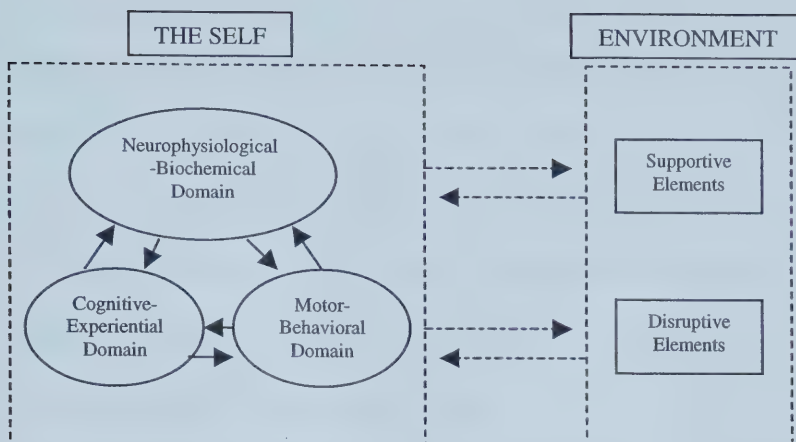
### *Construct of Emotion Regulation*

Over the past decade the focus of emotion research has shifted from attempting to define and measure emotions to examining how multiple modes of emotional responding are related (Garber & Dodge, 1991). In other words, determining the inter-relationships between cognitive, behavioral, and social methods of regulating emotions and their impact on human functioning and well-being. The construct of emotion regulation emerged from a resurgence of interest in regulatory aspects of emotional responding. Emotion regulation is a developmental achievement acquired early in life and is the net result of the dynamic interrelationships of emotional, cognitive, behavioral, and social processes (Kopp, 1989). Consequently, distinguishing emotion regulation from these interrelated processes is quite complicated and presents some challenges in developing a clear definition. Emotion regulation has been presented in broad and narrow scopes and has varied depending on theoretical perspective. These distinct definitional attempts have contributed to the development of an emotion regulation construct (Garber, & Dodge, 1991). Examining the various ways in which the term has been conceptualized in the literature over the years can best delineate the evolution of this construct.

Garber and Dodge (1991) have conceptualized the organization of emotion regulation as consisting of three domain forms: 1) interdomain, 2) intradomain, and 3) interpersonal domain (Fig. 1.1).







**Figure 1.1.** Organizational scheme of emotion regulation

In 1989, Dodge proposed that emotion regulation was the process of activation in one response domain that alters, titrates, or modulates activation in another response domain. This definition was limited to the interdomain form of emotion regulation, which accounted for various response domains (i.e. neurophysiological, cognitive, behavioral) and the dynamic interplay between these domains. However, it failed to account for intradomain or interpersonal domain forms. Intradomain regulation occurs when one aspect of responding in a certain domain is modulated or altered due to another aspect of responding in the same domain. For example, this modulation occurs within the neurophysiological domain when heart rate is regulated through respiratory activity (Porges, 1991). The importance of the interpersonal domain was highlighted when Campos, Campos, and Barrett (1989) emphasized the regulation that occurs within the dynamic interaction between an individual and their environment. Nevertheless, Dodge's initial attempt to define emotion regulation provided a base for understanding the dynamic nature of emotion regulation, from which more specific attributes could be acknowledged.



Thompson's (1994) definition was more elaborate than Dodge's. He described specific and objective elements of emotion regulation. He proposed that emotion regulation involves intrinsic and extrinsic processes which are responsible for monitoring, evaluating and modifying emotional reactions, especially intensive and temporal features, to accomplish one's goals. This definition accounts for multiple modes of emotional responding and indicates both inter- and intra- domain, and interpersonal processes, thus including social aspects of emotion regulation.

Emotion regulation has also been described in terms of an organizational perspective of development. This perspective purports that intraorganismic and extraorganismic factors dynamically interact to determine the ontogenetic development of emotion regulation (Cicchetti, Ganiban, & Barnett, 1991). Intraorganismic factors regulate emotion from within the individual and include central nervous system functioning, cerebral hemispheric lateralization, development of neurotransmitters, cognitive and representation skills, and sense of self. In contrast, extraorganismic factors regulate emotion from outside the individual and include parental interactions, such as response tolerance, socialization practices, and affective display.

This theory postulates that early emotion regulation is provided directly by the caregiver through soothing and environmental manipulations (Kopp, 1989). For example, manipulating proximity to the caregiver can regulate "fear" in strange situations for children. Therefore, extraorganismic factors function when emotions are evoked or experienced initially in infancy to aid regulation and build regulation strategies. Furthermore, intraorganismic factors would only become influential in the regulation of





emotions when maturation and learning processes enable connections to be made between internal messages and governance of emotions.

Emotion regulation, then, can be understood as an extraorganismic/interpersonal process that occurs due to some factor external to the person displaying the emotion, that is, regulated by something in the environment (e.g., context, situation, person). Additionally, it can describe emotions as the regulator of, or as being regulated by, other intraorganismic/interdomain processes (e.g., cognitions, behavioral responses, central nervous system, perceptions of self). Finally, emotion can be regulated due to response activations occurring within the same domain (i.e., intradomain responding). Definitional features were drawn from Thompson (1994) for the purposes of this study to define emotion regulation as, “the ability to maintain/enhance positive emotions and/or inhibit/reduce negative emotions in attempting to accomplish goals.” This definition clearly specifies the emotional flow expected and accounts for emotional intensity. Additionally, it accounts for cognitive aspects of emotional regulation through expression of personal goals.

The following sections will outline inter- and intradomain, as well as interpersonal processes by highlighting certain cognitive (i.e., information processing), social (i.e., socialization, parent-child relationship), and behavioral (i.e., conduct problems) aspects affecting emotion regulation. First, a review of emotion dysregulation describes how these processes can fail to become activated or integrated.

### *Emotion Dysregulation*

In simple terms, emotion dysregulation is the failure to regulate emotions. According to Dodge (1991), failures occur when response systems (i.e., domains) have failed to



become active and thus fail to interrelate with each other. Emotion regulatory processes can be thought of as being on a continuum, operating more or less functionally. Therefore, dysregulation does not necessarily indicate an absolute absence of emotion regulation ability, rather a process that results in impairments or restrictions of functioning (Cole, Michel, & O'Donnett Teti, 1994). For example, an individual experiencing “anger” may attempt to regulate this emotion using strategies that result in the anger being maintained or increased, rather than reduced. Thus, regulation was attempted, but not successful in abating the “anger.” The ever-present negative emotion may become restrictive if the focus remains on the experienced anger, disabling the person to move beyond their negative emotional state. Additionally, since emotion regulation depends on the function and integration of social, cognitive and behavioral processes, these impairments or restrictions will also be evident in such things as social relations, information processing, problem solving, attention, behavior, and emotional expression (Izard, 1977; Kopp, 1989; Cicchetti et al., 1991).

Dysregulation of emotion is distinctly noticeable in acute anxiety, unabated pain, behavioral excesses, or debilitating withdrawal. These symptoms of chronic dysregulation are characteristic of several childhood psychopathologies (Dodge, 1991). Symptomatology expressed in Oppositional Defiant/Conduct Disorders found in the Fourth Edition of the Diagnostic and Statistical Manual for Mental Disorders (American Psychiatric Association, 1994) describes prototypical chronic dysregulation, which demonstrates impaired or restricted functioning in emotional (e.g., lack of concern for feelings of others, lack of guilt or remorse, blaming others for their misdeeds, irritability, low frustration tolerance), behavioral (e.g., cruelty to animals, initiation of physical



fights) and social (e.g., defiance of authority figures, disrespect of others person and property) domains. Furthermore, cognitive mechanisms (e.g., attributions and anticipation of consequences) for these individuals can become disorganized during provocative situations leading to impulsive, aggressive emotional responses (Dodge, 1991).

Various theories have attempted to explain emotion dysregulation. Psychoanalysts assert that dysregulation stems from early childhood emotions (e.g., anxiety, despair, disappointment) that are inflexible and unchanging throughout development, confining personality development and producing symptoms (Cole et al., 1994). On the other hand, cognitive-behavioral theorists suggest that dysregulation is developed and maintained through learned behaviors, attributional styles, belief systems, and self-statements. Attachment theory proposes that a lack of nurturing emotions (e.g., warmth, love) within the parent-child attachment leads to dysregulation (Arnett, 1995). Developmental theories incorporate the influence of parent-child relationships within extrinsic factors that affect the development of emotion regulation (Cicchetti et al., 1991). Additionally, intrinsic factors (e.g., cognitions) are included and interact with extrinsic factors to regulate emotions. Therefore, according to developmental theories dysregulation of emotions result from developmental failures due to intrinsic and/or extrinsic factors or the lack of interaction between these factors.

In a broader sense, the dysregulation of emotion can be described as failure in meeting the developmental task of emotion regulation (Cicchetti et al., 1991; Garber, & Dodge, 1991). The assumption made in this study is that these developmental failures begin early in life and stem from the absence or inconsistency of nurturing emotions





within the parent-child relationship, which over time produces failures within single or across domains (i.e., cognitive, behavioral, social) to varying degrees reducing the ability to regulate emotions. This assumption incorporates aspects of parent-child attachment theory within the developmental theory premise of extrinsic factors (e.g., social domain), plus accounts for intrinsic factors (e.g., cognitive, behavioral domains) affecting the development of emotion regulation.

Highlighting emotion dysregulation serves the purposes of acknowledging that: a) dysregulation stems from failures within single and/or across various domains, which suggests a continuum of more or less dysregulation, plus indicates the possibility of correcting failures occurring in effected domains, and b) emotional processes may play an etiological role in psychological disorders, such as Oppositional Defiant/Conduct Disorders. Nurturing emotions are thought to be the motivating factors for children to adhere to the constraints set by their parents. Therefore, when these emotions are absent or inconsistent, emotional dysregulation may present itself through exaggerated misbehavior (Arnett, 1995). Since females are typically socialized to be more emotionally aware (e.g. Malatesta-Magai, 1991), emotional processes may be more salient for females. Thus, a plausible etiology for dysregulation of emotions in adolescent females exhibiting conduct problems may be the under-development of emotional processes that occur within parent-child interactions.

### *Cognition and Emotion Regulation*

Information processing systems represent an intra-personal process that affects emotion regulation ability. We make sense of and relate to our world through processing information (Cowan, 1982). Therefore, this cognitive system is like a gateway that directs



how we perceive, understand, and relate to others and ourselves. Crick and Dodge (1994) reformulated a social information-processing model (See Figure 1.2) accounting for children's social adjustment. They assert that an individual enters a social situation with a compilation of abilities and predispositions (e.g., intelligence, temperament, mood state), plus past experiences, and based on these factors input received from the environment is deemed relevant or irrelevant. The model proposes five mental steps prior to enacting a behavioral response: 1) encoding stimulus cues, 2) interpretation of cues, 3) clarifying goals, 4) accessing or constructing responses, and 5) evaluating and choosing responses. Processing in these steps is expected to occur simultaneously, however, examining the steps sequentially aids in our understanding of how information is processed in a social context. Each and every step of this model involves emotion, in that emotional energy drives, organizes, amplifies, and attenuates cognitive activity, which is the experience and expression of this activity (Dodge, 1991). Therefore, one could state that all information processing is emotional and thus contributes to one's ability to regulate emotion. Even though the intricacies of this model will not be reviewed in detail, this section outlines the five mental steps involved in processing social information according to Crick and Dodge (1994) and makes connections between these cognitive processes and emotion regulation ability.



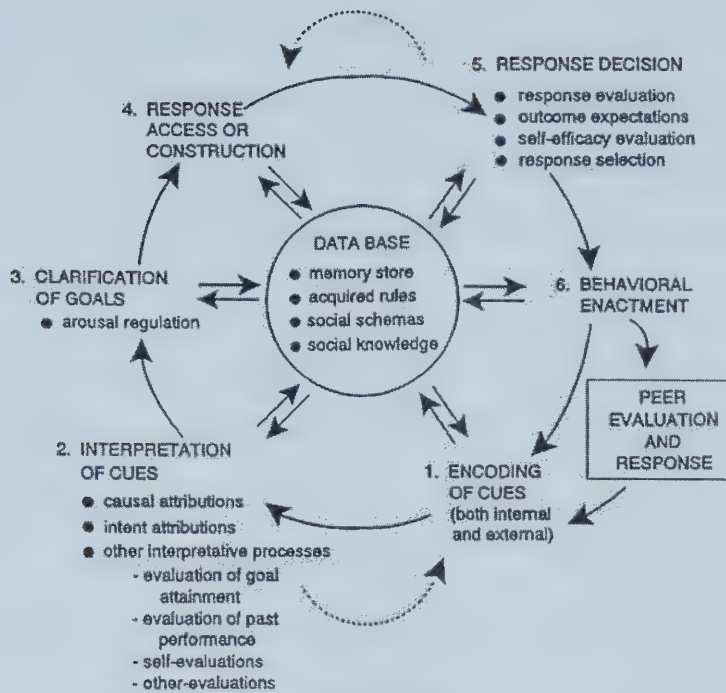


Figure 1.2. Social Information Processing Model proposed by Crick and Dodge (1994). Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*, 115(1), 74-101.

Encoding involves the reception and encoding of situational cues, which requires attentional processes and skills. Kahneman (1973) described two attending skills: 1) selective attention – attending to some cues more than others; and 2) intensive attention – the degree to which processing functions are employed in processing cues. Attention is governed by environmental affordances (i.e., more obvious cues), processing capacity (i.e., endowed brain potential), effort, internal rules (i.e., governing allocation of attention selectivity), and training (Eysenck, 1982; Gibson, 1966). Various hypotheses have been postulated to explain how these attentional processes work. The “filter hypothesis” asserts that only a limited amount of information can be stored and processed from an abundance of information (Broadbent, 1958; Treisman, 1964). In contrast, various levels of processing have been argued to co-occur in “multiple level processing.” This





hypothesis asserts that some information is easier to process due to familiarity of information, whereas more creative thought demands greater effort and attention. The difference between these levels of processes is that some have become automatic and some are still in the process of being acquired (Posner, 1978; Shiffrin & Schneider, 1977; Treisman & Gelade, 1980).

Although each of these hypotheses propose disparate attentional processing mechanisms, it is clear that regardless of the mechanism, not all information is processed. The information that is attended to and processed can influence the way we interact with our world and others. Thus, how information is encoded can affect the way in which emotion is stimulated and regulated in any given situation. Dodge & Newman (1981) found that aggressive children attend to fewer social cues than other children before proceeding with later stages of processing (e.g., choosing response, enacting response). Additionally, aggressive children selectively attend to more familiar information, particularly information similar to self-schema, and disregard information contradictory to self-schema, when making interpretations (Dodge & Tomlin, 1987). Therefore, variations in encoding and attentional skills interfere with subsequent processing and responding necessary for successful social interactions. These findings demonstrate how emotions can be dysregulated when only limited information is perceived during interactions with others.

The second information-processing step is the interpretation of information that has been perceived. At this time, meaning is assigned to encoded informational cues by matching with possible interpretations already stored in memory or by generating new interpretations through individually acquired decision rules (Dodge, 1991). Real time



demands are apparent during interpersonal interactions, in that they require quick interpretations. These types of interactions can limit “in-the-moment” processing, which helps to reduce the inaccuracy of interpretations. Quickly formulated interpretations can stem from biases in attributions about causes of event stimuli and result in less accurate interpretations. One such bias involves the tendency to interpret stimuli as having hostile intent. Such biased interpretations can lead to premature cognitive processing (i.e., interpretation to response) and emotion dysregulation (i.e. extreme emotional response) that would possibly not occur upon further encoding where other possible responses could be sought and a more accurate response chosen. For example, socially rejected and aggressive children have been found to make inaccurate interpretations of peer intentions, presuming hostility (Dodge, Murphy & Buchsbaum, 1984; Dodge & Coie, 1987; Dodge, Pettit, McClaskey & Brown, 1986). Furthermore, when peer intent is ambiguous these children have been found to have biased hostile attributions, which lead to immediate displays of inappropriate reactive aggressive behavior (Dodge, 1980; Dodge & Frame, 1982; Nasby, Hayden, & dePaulo, 1979; Slaby & Guerra, 1988; Waas, 1988).

After cues are interpreted, goal selection or clarification is processed. Goals can work towards a desired outcome (e.g., desire to stay out of trouble) or continue towards a pre-existing goal of a present situation. Goals are proposed to be arousal states that function to orient or motivate towards particular outcomes. In this step, cognitive processes play a direct role in regulating emotions. That is, clarifying goals is defined as an arousal state; therefore, the assumption here is that goals are processed prior to regulating emotions. Moreover, Thompson (1994) describes emotion regulation as functioning to accomplish



goals. This suggests that aroused emotions are not regulated without first cognitively processing goals.

Once goals are clarified, available responses are accessed from long-term memory. This step is called “response access.” Response accessing is a function of quantity of available responses and rules of access, which vary depending on experience and context (Dodge, 1991). Responses are analogous to the term “regulatory strategies,” in that emotion is assumed to be regulated in part through engaged upon strategies or responses. Recently accessed responses are more readily available, whereas some responses may not be available because they have never entered the response repertoire. The number of responses generated and quality of responses is significantly related to social behavior outcomes (Spivack, Platt, & Shure, 1976; Krasnor & Rubin, 1981). Therefore, children who frequently regulate their emotions through aggressive responses are more likely to access and engage in those responses (i.e., regulatory strategies) in future social interactions (Asarnow & Callan, 1985; Feldman & Dodge, 1987).

Next, possible responses are evaluated against some criterion and one is selected during “response evaluation.” This decision making process involves the consideration of interpersonal consequences, instrumental consequences, and moral value of behaviors prior to selection. Each aspect considered is assigned a value and weighted by individual factors (e.g., Do I need to be liked here?). Values are then integrated to make decisions (Dodge, 1991). However, if certain responses are typically engaged in to regulate emotion (e.g., aggression) these responses are likely to be evaluated more favorably, diminishing the value of more socially acceptable responses. For example, aggressive children have been found to evaluate instrumental and interpersonal outcomes, and moral





value of aggressing more favorably than non-aggressive children (Boldizar, Perry, & Perry, 1989; Perry, Perry, & Rasmussen, 1986).

The final step, enactment, requires enacting the selected response through verbal and motor behavior (Dodge, 1991). Behavioral skills, such as employing protocols and scripts that are acquired through imitative learning, rehearsal, and repetition are important in enacting selected responses. Due to the difficulty of isolating “enacting” behaviors from previous information processing steps, few studies have been executed. However, Dodge, et al. (1986) have found that aggressive children have less competent enactment performance than other children when entering peer groups. This finding is consistent with the aforementioned studies, which have found that aggressive children misinterpret benign social cues, resulting in immediate enactment rather than further cognitive processing to ensure accuracy of interpretation prior to enacting.

Cognitive processes, then, can impact the development of one’s representations of one’s self and the world, and contribute to the capacity to regulate emotion by attending, assigning meaning, accessing, evaluating and choosing responses to perceived information. Maintaining connection between cognition and emotion shapes ongoing cognitive activity, and facilitates long-term storage of information, which enables access to a greater number of adaptive responses, aids in learning how responses affect immediate events, and permits these responses to enhance emotion regulation ability (Derryberry & Reed, 1994). However, cognitive processes can be disrupted by biased attributions (e.g., hostile intent bias), heightened arousal, and presence of negative emotions (Eysenck, 1982). Provocative situations that stimulate negative emotions tend to impair children’s ability to resist temptation, delay gratification, and problem solve



(Mischel, Eddeson, & Zeiss, 1972; Fry, 1975; Moore, Clyburn, & Underwood, 1976; Masters, Barden, & Ford, 1979). Negative emotional states arrest information processing, lower children's perception of self-worth and alter expectations of future outcomes (Masters & Furman, 1976). For example, fear increases the likelihood that others' intentions are interpreted as being malicious (Schiffenbauer, 1974). Children who typically use aggression to relate to the world are particularly vulnerable to the disruptive effects of negative emotions on interpreting social information (Dodge & Somberg, 1987).

Clearly, information processing involves an array of cognitive, behavioral, social and emotional processes that influence how emotions are regulated. Cognitive schemes usually include an affective component, behavioral action, and occur in relation to others or our environment (Cowan, 1982). Affective experiences require cognitive organization to derive personal meaning of such experiences. That is, emotions are typically encountered along with some cognitive representation of the very thing that elicits the presence of emotion. Emotions can occur as an antecedent to processing information, either from environmental or internal cues. For example, cognitive distraction strategies can be used to inhibit impulsive behavior or reduce sadness. Emotions can also arise from a cognitive activity, such as thinking of past or future events. Furthermore, emotional presence is easily identifiable in perceptions, specifically when expectations have been perceived as violated or interrupted (Pribram, 1981).

Undoubtedly, cognitive functions (e.g., planning, selective attention, interpretation) are intertwined and highly inter-dependent with emotions and the regulation of emotions. As highlighted earlier, individuals who relate to the world in an aggressive manner are more



likely to misperceive, misinterpret, and prematurely enact upon information, increasing the likelihood that their emotions will be dysregulated. Thus, individuals with conduct problems experience failures/disruption in the cognitive domain, which in part contributes to the dysregulation of emotions.

### *Social Aspects of Emotion Regulation*

Emotions and the ability to regulate those emotions begin to develop during infancy through the interactions with caregivers (Bowlby, 1969; Kopp, 1989). These interactions provide the basis for infants to discriminate between different facial expressions, recognize the intentionality of emotional states, respond appropriately to the meanings of different emotional expressions, and react selectively towards objects in the environment in which emotions are expressed (Harris, 1989). Soon, infants begin to understand the social value of emotions and emotion regulation, in that they learn that they can influence emotional states for themselves and others. Developing this ability illustrates the importance of social factors in acquiring the significant developmental objective of emotion regulation (Fox, 1994).

The external environment, via the infant-caregiver relationship, provides initial emotion regulation (Kopp, 1989). The caregiver continually promotes and monitors initial regulation attempts during infancy and childhood. Communication between infant and caregiver works to form the basis of regulatory processes for the infant. That is, infants communicate their needs, and the way in which caregiver responds begins to form the pattern of communication between the pair. This initial infant-caregiver communicative pattern contributes to the regulation ability of the infant, and may also determine enhancement or limitations to future regulatory abilities. Developmentally the infant's task



is to become independently skilled at regulatory processes (Kopp, 1989). Infants display various behaviors that indicate that they are regulating negative arousal states (e.g., sucking, head turning). Over time, these behaviors are strengthened due to their continual association with the regulation of negative emotional states, resulting in increasingly voluntary emotion regulation strategies.

Emotion regulation serves two distinctive and important socially adaptive functions in infancy (Fuendeling, 1998). First, emotion regulation serves as a survival function. For example, the perception of danger within an infant's immediate environment triggers anxiety. This anxiety then leads the infant to engage in proximity-seeking and maintaining behaviors toward the caregiver, thus reducing the feelings of anxiety and increasing the feelings of security. Second, the ability to regulate emotions enhances infant exploratory behaviors. For example, infants learn that caregivers can soothe their emotions when distressing events are encountered (e.g., their emotional expressions elicit parental comforting). This results in feelings of security and confidence encouraging further exploratory behavior with little hesitation. Evidently, relational processes are at the core of the emotion regulation construct (Campos, et al., 1989).

The parent-child relationship provides the context in which children develop emotionally, and also learn to respond to emotionally laden events (Bowlby, 1969, 1973; Cassidy, 1994, Fuendeling, 1998). Children may learn by watching their parents model emotional expression and strategies in the midst of an emotional event. On the other hand, they learn through the process of socialization, in which they adjust their responses according to how their parents respond to the way they are expressing emotions and strategies in emotionally laden events. Thus, children learn to adapt their emotional





expression by observing their parents' modeling of emotional expression and internalizing parents' attitudes regarding the acceptability of emotional expressiveness (Wilson & Gottman, 1995). For example, Garner, Robertson, and Smith (1997) found that parental expression of positive emotion was positively correlated with children's positive emotional expressiveness. Parents who report being high in positive emotional expression likely give more opportunities to their children to learn strategies to reduce their negative affect and enhance their positive affect.

When parents model dysregulated emotions to their children through destructive behaviors, research has shown that children are more likely to develop similar behavioral strategies (Cummings & Davies, 1996). Psychopathology in parents, poor parenting practices and marital discord have been shown to influence how children dysregulate their emotions through increased disruptive behaviors (Cicchetti, Toth, & Lynch, 1995). In these environments children do not receive the modeling required to know how to regulate their emotions in a flexible, adaptive manner. Rather, children learn only how to adapt from one family incident to another (e.g., marital conflict) resulting in short term, inflexible solutions that may not be adaptive in the long term (Cummings & Davies, 1996). Over time a dysregulatory pattern of emotions forms, characterized by overly hostile, distressing, or withdrawn expressions. These dysregulatory patterns have been associated with developing psychopathology (Dodge, 1991; Greenberg, Speltz, & DeKlyne, 1993). In contrast, children who have witnessed their parents modeling regulation of negative emotions by way of successful conflict resolution have been found to be less likely to develop patterns consistent with internalizing or externalizing psychopathology (Cummings & Davies, 1996).



Emotional aspects of socialization processes may be more salient for females than males because females are more sensitive to emotional cues, or lack thereof, and therefore may place a larger investment in their parent-child connection. Research indicates that females are socialized to be more aware of their emotions relating to interpersonal connectedness, and parents model more emotional expressiveness to daughters than sons (Malatesta-Magai, 1991). Young girls tend to want to comply with demands of their parents, partly to avoid any sanctions that may be forthcoming if they fail to comply, and partly to maintain the attachment bonds they have with their parents (Arnett, 1995). Parents socialize their daughters to have a greater social and interpersonal orientation, and thus they learn to value emotions consistent with creating and maintaining intimacy with others (Saarni, 1989; Gilligan, Lyons, & Hanmer, 1990; Zahn-Waxler, Cole, & Barrett, 1991). More often, mothers encourage girls rather than boys to have concern for others, share or even relinquish their toys to peers, and to behave in a pro-social manner (Keenan & Shaw, 1997). Socialization, then, appears to place girls in the position to learn more social skills and ways to express their emotions.

Just as the parent-child socialization process can strengthen, it can also precipitate failures in emotion regulation abilities. For example, in western societies girls are often socialized and encouraged to play quietly, be cautious or fearful, shy, and somewhat dependent on others (Simpson & Stevenson-Hinde, 1985; Zahn-Waxler, 1993). Females are often reinforced through positive attention for demonstrating over-control of their emotions (Keenan & Shaw, 1997). Girls who divert from such gender-stereotyped behavior (e.g., overactivity, aggressiveness, defiance) as infants and toddlers are quickly responded to with more energy and encouraged to channel their behaviors into accepted socialized



sex-stereotyped form. Extremes in either direction tend to increase the risk of emotion dysregulation (Dodge, 1991). On one hand, over-control of emotions can result in the dysregulation of emotions through internalizing behavior problems, whereas the other extreme results in dysregulation through externalizing behavior problems. Internalizing emotional expressions are more likely reinforced for girls because parents regard them to be less problematic than externalizing emotional expression (Keenan & Shaw, 1997). Findings from several studies have shown problematic behaviors in girls to decrease around four years of age, just prior to entering school (Cummings, E. M. Iannotti, R. J., & Zahn-Waxler, C., 1989; Richman, N., Stevenson, J., & Graham, P., 1975, 1982, 1985; Rose, S. L., Rose, S. A., & Feldman J. F., 1989). Therefore, the visible nature of externalizing behaviors may increase the likelihood of people outside of the family unit (e.g., school teachers) identifying girls exhibiting these behaviors. Suffice to say, this type of attention may increase pressure felt by the family to rectify such behaviors. In contrast, girls with internalizing problems may only be identified in adulthood, which focuses treatment solely on the individual.

In sum, research findings in areas of attachment, socialization, and learning theories of parental modeling are supportive of the major role that the parent-child relationship plays in children's emotional development, and in turn emotion regulation processes. These interpersonal relationships begin in infancy and represent social aspects of emotion regulation that affect emotional development, strengthening or weakening emotion regulation abilities. Due to the emphasis placed on emotional development for females, emotion regulation failures within these social processes may place them at greater risk for emotion dysregulation.





### *Emotion Regulation and Female Conduct Problems*

Conduct problems such as aggression, truancy, and disruptive behaviors have continually increased among the adolescent population over the past 20 years, evoking fear, intimidation, and deprivation in our communities (Achenbach, & Howell, 1993; Richters & Martinez, 1993). Research on the etiology of conduct problems has focused mainly on behavioral (e.g., socialization, learning theories), cognitive (e.g., moral development, perceptions), or biological (e.g., salivary, testosterone, cortisol) explanations for male adolescents (Auerbach, Lerner, Barasch, & Palti, 1991; Dabbs, Jurkovic, & Frady, 1991; Gartland & Day, 1991; Wong, & Cornell, 1999). Males are emphasized in conduct research because they tend to have higher prevalence rates compared to females (8.1% vs. 2.8%) and exhibit greater mean levels of physical aggression (Broidy, Nagin, Tremblay, Bates, Brame, Dodge, Fergusson, Horwood, Loeber, Laird, Lynam, Moffitt, Pettit, & Vitaro, 2003; Offord, Alder, & Boyle, 1986).

More recently, there has been an increased interest in understanding conduct problems for females. The developmental trajectory for conduct problems in females tends to be somewhat consistent with males, in that the majority of girls show physical aggression rarely or at low levels and only a small group of girls follow a chronic physically aggressive pathway (Fergusson, Horwood, Loeber, Laird, Lynam, Moffitt, Pettit, & Vitaro, 2003). The major difference in the chronic physically aggressive pathway between the genders is that girls' mean levels of aggression are lower than boys; however, they are still greater than boys' aggression levels in the rare or low level groups. Inconsistent individual developmental patterns were found for females between



childhood physical aggression and violent offending in adolescence (Fergusson, Horwood, Loeber, Laird, Lynam, Moffitt, Pettit, & Vitaro, 2003). Among research conducted across multiple sites, only one site found this direct link, whereas other sites could only relate general oppositional or conduct problems to non-violent delinquency. This suggests that no particular type of disruptive behavior during elementary school years exerts a direct influence on violent or non-violent offending in female adolescents. Our understanding of developmental pathways for female conduct problems is just beginning to evolve. However, inconsistencies between early physical aggression and chronic adolescent physical aggression indicate that female conduct problems are complex and may involve gender specific forms of disruptive behaviors that are not currently accounted for in DSM –IV typologies.

Crick & Grotpeter (1995) recognized that previous research focused on forms of aggressive acts that are more salient for males and began investigating female-specific forms of aggressing. They proposed that children are most likely to aggress in ways that are valued by their respective gender group. Relational issues during social interactions were considered to be most valued for females. Therefore, they hypothesized and found evidence that female aggression was consistent with socially related concerns. Evidence in support for female-specific forms of aggression (i.e., relational aggression) underscores the importance of examining aspects of female development that are considered to be most valued in order to better understand female conduct problems.

Socialization literature has supported that females are typically encouraged to be more relationally sensitive and aware than males (Saarni, 1989; Gilligan, Lyons, & Hanmer, 1990; Zahn-Waxler, Cole, & Barrett, 1991). Often females are socialized to be



peacekeepers or maintainers of social relationships. Inherent in this role is the regulation of emotions in ways that are consistent with this goal. Typically, females over-control their emotions (Simpson & Stevenson-Hinde, 1985; Zahn-Waxler, 1993). Such emotional states have been associated with internalizing disorders in adolescence and adulthood (Keenan & Shaw, 1997). Recently, there has been concern with the increasing number of comorbid internalizing symptoms seen in girls with conduct problems (Keenan, Loeber, & Green, 1999). Campbell, Muncer, and Coyle (1992) have found women to perceive aggression as a loss of self-control building from stress. Aggression is then considered a personal failure, not being able to control one-self in the midst of negative emotions. This belief can then result in increased internalizing symptoms (e.g., guilt, anxiety), especially if aggressive behaviors have become a regulatory strategy for negative emotions (Eagly & Steffen, 1986).

Despite that females are socialized to highly value relationships, which involves the socialization of developing emotions and their regulation, the role of emotional processes have been neglected in the etiology of conduct problems. Emotions have been studied in a vast array of areas related to conduct problems (e.g., socialization, personality, psychopathology-depression), and certain negative emotions (e.g., anger, sadness, resentment, irritability, and frustration) have even been noted to be present in conduct problem issues (Keenan, & Shaw, 1997; Fuendeling, 1998). However, few studies have focused on emotions and their regulation as being key factors in the development of an etiological pathway leading to maladaptive behaviors in female adolescents.

Kostiuk & Fouts (2002) recently connected emotion regulation processes to the development of aggressive and disruptive behaviors in adolescent females. Using a



qualitative methodology, they explored how adolescent girls receiving treatment for conduct problems in a residential treatment program a) understood three positive emotions (Love, Happy, Calm/Content) and three negative emotions (Hate/Dislike, Sad, Anger/Frustration), b) regulated those emotions, c) interpreted their regulatory success, and d) produced alternative regulatory strategies in relation to their emotional experiences with their mothers and fathers. The girls understood most emotions with the exception of "calm/content." They were able to maintain/enhance positive emotions through socially tolerable regulatory strategies (e.g., giving hugs, kisses, talking, shopping). However, for their negative emotions, they used only socially intolerable regulatory strategies (e.g., hitting, slamming doors, breaking things) to reduce/inhibit their emotions, suggesting that they have difficulty regulating their negative emotions. Additionally, they were only able to generate alternative socially tolerable strategies for negative emotions with their mothers. These findings support the importance of emotions for females with conduct problems and suggest that mother-daughter relationships help reduce negative emotional states to enable adolescent girls to at least entertain thoughts of alternative tolerable regulatory strategies. However, overall negative emotional states for these girls were abated through socially intolerable means, with limited strategies for regulating emotions through appropriate methods.

Investigations focusing specifically on conduct problems for females has advanced our understanding of developmental trajectories, identified forms of female-specific aggression, and established connections to emotion regulation. The extent that emotion regulation contributes towards the etiology of female conduct problems is unknown. However, findings from Kostiuk and Fouts (2002) imply that female emotion dysregulation,





expressed through behavioral misconduct, stems from failures in social and emotional processes present in the parent-adolescent relationship (i.e., gender emotion socialization, modeling, attachment). This highlights the importance of interpersonal/social domain failures in female conduct problems, as well as pointing to behavioral (e.g., destructive behavior), cognitive (poor decision making), and emotional (e.g. unabated negative emotions) domain failures. Therefore, emotion dysregulation in adolescent females with conduct problems may be quite extensive with failures experienced across multiple domains.

### *Present Study*

Kostiuk and Fouts (2002) outlined the possibility of multiple domain failures in emotion regulation for female adolescents with conduct problems that develop from social and emotional processes within parent-child relationships. The present study was descriptive in nature, collecting both qualitative and quantitative information on emotion regulation. The purpose of the present study was to build upon this previous research by a) creating the Emotion Regulation Indicator (ERI), a structured, quasi-quantitative instrument b) pre-testing and administering the ERI to adolescent girls within treatment facilities for conduct problems and within the community and c) identifying emotion regulation patterns from ERI data within and between the two groups in order to generate items for future scale development and hypothesis testing.



## Method

### *Participants*

Two groups of adolescent girls between the ages of 13 -17 years were recruited in a large urban centre. The first group consisted of six girls who were experiencing conduct problems; five girls were attending one of the two residential treatment centers and one girl was receiving individual post-residential treatment from centers involved in this study. The second group was a comparison group that consisted of six adolescent girls who had never received treatment for conduct problems. These girls were recruited from the local community. The inclusion of both treatment and non-treatment groups was important at this stage of scale development to ensure that a range of emotion regulation information was represented in the formulation of instrument items.

Inclusion criteria for girls in either group included (a) contact with parents within the past twelve months, and (b) consent/assent from parents/adolescents to participate in the project. Participants in both groups, and their parent(s)/guardian(s) were informed of their right to withdraw at any time without penalty and to have information that they provided confidentially protected. To ensure confidentiality, consent/assent forms were kept separate from the data; the primary investigator was thus not able to link the identification of the participants to their data. Girls in the treatment group were not required to have a formal clinical diagnosis of either conduct disorder (CD) or oppositional defiant disorder (ODD). Instead, they required the presence of the behaviors, attitudes, and emotions characteristic of CD and ODD sufficient to warrant treatment.

### *Measures*



*Emotion Regulation Indicator (ERI) Development.* The Emotion Regulation Indicator (ERI) was developed to indicate emotion regulation/dysregulation within a parent-adolescent context for adolescent girls with and without conduct problems. In a previous study (e.g., Kostiuk & Fouts 2002), girls were asked to qualitatively describe emotional experiences they had with their mothers and fathers based on six core emotions explored (e.g., happy, sad, calm, frustration, love, dislike). These previous responses were examined to create two parent-adolescent scenarios (e.g., comforting and bonding) that would elicit positive emotions and two scenarios (e.g., being let down, privacy invasion) that would elicit negative emotions. These scenarios formed the structure of the ERI. Regulation strategies indicated by participants from this previous database were also drawn upon to create emotion regulation strategy listings in the ERI. Incorporated within each of the scenarios were systematic, quantitative and qualitative emotional, cognitive and behavioral based questions formatted to represent emotional regulation processes. The instrument read at a grade six reading level.

The ERI was structured to examine five areas of emotional functioning: (a) *Understanding of emotions* - participants were asked to define each of the six core emotions (happy, sad, contented/calm, anger/frustration, love, and hate/dislike) examined in this study; (b) *Parental context of experiencing emotion* - participants were asked to recall experiences with their mother/father and then indicate if the experience they thought of relates more to their mother, father, or both equally; (c) *Emotional Ratings & Regulation Strategies* - participants 1) rated on a scale from 0-4 (none – very little – somewhat – very much – completely) the extent to which they felt each of the six core emotions in relation to the experience they recalled, as well as listed and rated any additional emotions, 2)





indicated the regulation strategies they used to show their emotions, and 3) re-rated the extent they felt their emotions after they engaged in their chosen regulation strategies; (d) *Regulation Expectations & Success* - participants described what they hoped to happen by showing their feelings in the ways they chose and then rated on a scale from 0-4 their perceived success of their method of regulating in regards to getting what they had hoped; and (e) *Regulation Alternatives* - participants listed any additional strategies for expressing their emotions in order to be successful in their goals.

Social, emotional, behavioral, and cognitive domains of emotion regulation were represented within the five areas of emotional functioning. Due to the integration of these domains, they can be represented in more than one area of emotional functioning. The first area of emotional functioning, Understanding of Emotions, requires the cognitive tasks of conceptualizing emotional experiences in order to extract and express in writing personal meaning of emotions. The second area, Parental Context of Experiencing, requires adolescents to recall emotional experiences of events that occurred between them and their parent(s) from memory. This area involves the conceptual, emotional, and social domains of emotion regulation. The Emotional Ratings & Regulation Strategies area requires cognitive processes to a) remember emotions felt during parent-adolescent events and b) to provide emotional ratings before and after engaging in regulatory strategies. The regulation strategies represent behavioral (e.g., yelling, walking) cognitive (e.g., distraction techniques – listening to music) and social (e.g., withdrawal, social isolation) actions used to regulate emotions. Cognitive processes are also required for the last two areas, Regulation Expectations & Success and Regulation Alternatives, as these



areas require reflection of expectations/goals of regulation, determination of regulation success, and the generation of possible alternative regulating strategies.

In sum, the ERI measure has integrated interdomain and interpersonal factors within five areas of emotional functioning to obtain a comprehensive picture of emotion regulation processes. Instrument items derived from information collected by the ERI validly represent several domains affecting emotion regulation ability, thereby enabling the generation of a scale for measuring emotion regulation in adolescent girls.

*Level of Conduct Scale.* The Level of Conduct Scale is a 25-item self-report behavior checklist that measures the type and frequency of conduct problems experienced in the past year by participants. The primary investigator developed this scale by listing symptoms from diagnostic criteria of both Oppositional Defiant Disorder and Conduct Disorder found in the Diagnostic & Statistical Manual of Mental Disorders - Fourth Edition (American Psychiatric Association, 1994). Participants were asked to identify how many times (0, 1-9, 10-21, 21+) in the past year they engaged in the listed behaviors.

Inclusion of this measure enabled conduct levels to be obtained for girls in both groups. Symptoms of conduct problems are primary examples of emotion dysregulation; therefore, girls in the treatment group were expected to have higher conduct levels, whereas girls in the community were expected to have lower conduct levels. Variation of conduct levels between the two groups would then indicate whether or not a range of emotion regulation was being represented in the instrument items created for future scale development.

*Demographic/Additional Information.* A cover sheet accompanying the ERI gathered information on date of birth, date of participation, an indication of participants' meaning of "parents" used in the survey (i.e., biological, adoptive, foster or other), dates of last contact



with mothers and fathers, family status (i.e., intact, separated, divorced), duration of current family status, and current residence (i.e., family, friends, extended family, program, or elsewhere) of participants. This information was primarily used to make comparisons between the treatment and community groups.

### *Procedure*

*Pre-test Procedures.* Three participants from one of the treatment centers volunteered to take part in this supplementary task. The primary investigator met with the three participants at the location of their program to administer the ERI. Verbal and written instructions were provided on how to review the instrument. The primary investigator remained in the room to answer any questions that arose during the task. The girls completed and reviewed the instrument to provide content validity for the ERI. Following completion, the girls were interviewed to find out whether the questions made sense, what words would they would rather use for those words that they didn't understand, whether the length was reasonable, and whether anything should be added or removed in order to capture their experience. The girls confirmed that the experiences outlined in the ERI were easy to personally identify with, and that the language used was easy to understand. The pre-test established that the ERI would require between twenty to thirty-five minutes to complete. Information regarding the conduct scale was revised at this stage. Prior to the pre-test, the scale required a specific number for each item to be selected (e.g., 1, 2, 3 etc.). The girls suggested that it was difficult to select an exact number of times engaged in any certain behavior, therefore groupings (e.g., 1-9, 10-20) were added.

*Data Collection Procedures.* Procedures for each data collection site varied, therefore they are separated below into three location areas: *Treatment Center-1*, *Treatment Center-*



2, and Community. Participants were recruited from two programs in Treatment Center-1. Participants in the first program resided, attended school and therapy at the residential treatment centre site. The second program was considered individual post-residential therapy, where participants were re-integrated into their family homes. Treatment Centre-2 was also a residential treatment centre.

*Treatment Center -1.* Prior to the primary investigator's involvement, the Research Associate from this treatment center solicited the participation of three programs; only two programs participated. The primary investigator attended a typical multi-family therapy session in one of the programs to introduce the project (i.e., pre-test and pilot phases) to adolescents and their parent(s)/guardians. This meeting informed attendees of the purpose of the research, time required for participation, distinction between the research project and their treatment, and the voluntary nature of participation. Each interested family was given a package with information letters and consent/assent forms. Families had time to ask questions and fill out consent/assent forms and were instructed to return complete/incomplete forms in the package provided prior to the primary investigator's departure. Those participants who were also interested in the pre-test phase of the project were asked to sign the pre-test consent/assent forms.

One week following the recruitment meeting, the primary investigator returned to the program to administer the pre-test to those girls who agreed to participate. Information gathered at the pre-test was considered and revisions were made. One week following the pre-test, girls with consent/assent were gathered together and administered the Level of Conduct Scale and ERI. Prior to obtaining the verbal instructions for their task, participants were reminded of their right to withdraw at any time without impact on their care.





In the second program, the girls and their parent(s) were approached by their individual therapists and introduced to the study. Those interested were given information letters along with assent/consent forms that contained the primary investigator's contact information. Upon the return of signed assent/consent forms, individual therapists contacted the primary investigator to arrange a time to administer the ERI and Level of Conduct Scale. The primary investigator met participants individually at the treatment location. Prior to collecting data, the project was summarized, requirements and confidentiality were explained, and participants were again informed of their right to withdraw.

*Treatment Center-2.* Program staff assembled girls who were already residing in the program to meet the primary investigator, and learn about the study and participation requirements. Girls were given the opportunity to ask questions regarding the study and provided with information letters and assent forms. Any forms that were signed during the recruitment meeting were given to program staff in order to obtain consent from parents/guardians. Once consent was confirmed, the primary investigator returned to the program to administer the ERI. Participants were reminded of their right to withdraw at any time without impact on their care prior to receiving the verbal instructions for their task.

Any new girls entering the program after initial recruitment had the project briefly described to them by program staff during intake into the program. At this time, staff established consent from parents/guardians. However, the primary investigator made several visits to the program to establish assent from the girls. If girls agreed to participate, data was collected.



*Community.* Girls were recruited from a local community through a snow-ball technique. The first participants were recommended by a common acquaintance. Following participation girls recommended other girls of the same age who were then approached to participate. The primary investigator arranged to meet with the parents and daughters individually to obtain consent/assent to the study. Once consent was established, girls were given the study package and verbal instructions for participation. The primary investigator remained in the room to answer any questions. When finished, the girls sealed and returned the anonymous packages to the primary investigator.

### Data Analysis

#### *Emotion Regulation Indicator*

The ERI contains qualitative and quantitative information. Qualitative information consisted of personal definitions of emotions, description of expectations/goals for chosen emotion regulation strategies, and generation of alternative strategies to reach stated goals. Quantitative information was provided by emotional ratings before and after engaging in regulation strategies and goal success ratings. A Likert type scale ranging from 0 to 4 (zero - none or not at all, 1 - very little, 2- somewhat, 3 - very much, 4 - completely) was used to obtain rating scores. Additionally, quantified categories were developed to indicate which parent was represented and which regulation strategies were engaged upon in each of the scenarios. Qualitative and quantitative data were used to analyze patterns in participant responses to formulate instrument items in the five areas of emotional functioning assumed to be associated with emotion regulation processes.

The first emotional function examined was Emotional Understanding. The written content of girls' personal definitions was analyzed in both groups for



differences/similarities in girls' depth/sophistication of understanding of six core emotions outlined in this study. The analysis resulted in the creation of four instrumentation items in this area for future scale development.

For each recalled parent-adolescent scenario, participants indicated whether their experiences pertained to their mothers, fathers or both equally. Participant responses were categorized into three groups and frequency analyses were performed. Frequency data were examined to determine which parent(s) were represented in positive/negative scenarios across both groups. Results provided information about emotional functioning in the area of Parental Context of Emotional Experiencing. Consequently, ten instrumentation items were formulated for this area.

Emotional ratings before and after engaging in regulation strategies provided quantitative data to indicate regulation/dysregulation of negative and positive emotions within positive and negative based scenarios. Emotional ratings would show a reduction of negative emotions or an increase or maintenance of positive emotions after engaging in regulation strategies if emotion regulation was indicated. In contrast, ratings would indicate maintenance or an increase in negative emotions or reduction of positive emotions if emotions were dysregulated. Type, number and intensity of regulation strategies were also compared between groups. Information from emotional ratings and regulation strategies lead to the formulation of seventeen instrumentation items for the area of Emotional Ratings & Regulation Strategies.

Expectations/goals were examined qualitatively and combined with quantitative data that represented perceived goal success. Descriptions of goals were examined for differences/similarities across and within groups for their presence/absence in positive and





negative scenarios, and their logical connection to the scenarios. Similarly, goal success ratings were examined to determine greater/lesser overall success across groups, and success differences for positive and negative scenarios across and within groups, as well as intra-individually. Patterns found resulted in the creation of seven instrument items for Regulation Expectations/Goals & Success area of emotional functioning.

The emotional functioning area of Regulation Alternatives required participants to generate alternative regulation strategies that could have increased success of their stated regulation expectations/goals. The presence/absence of responses and intra-individual differences between positive and negative scenario responses were analyzed for both groups and compared between groups. Results lead to the formulation of four instrumentation items for future scale development.

#### *Level of Conduct Scale*

This scale was added to determine the level of misconduct engaged in by participants in the past year. Possible categories to choose from (zero, 1-9, 10-20, or 21+) were given a weighted numerical value (0, 1, 2, 3) respectively. The weighted values were then multiplied by the number of items chosen for each category and then summed, providing a single numerical Level of Conduct value for each participant. These scores were then compared between community and treatment groups to determine whether girls in treatment were reporting higher levels of misconduct than girls in the community.



## Results

### *Emotion Regulation Indicator*

*Understanding of Emotions.* Personal definitions were provided on six different emotions, three positive (i.e., love, happy, calm/content) and three negative (i.e., hate/dislike, sad, anger/frustration). Responses were reviewed and the following items were created:

1. I have trouble defining peaceful emotions
2. I find peaceful emotions easy to define
3. I have trouble putting what I feel into words
4. I can easily put my feelings into words

The first and second items were derived from the difficulty girls in the treatment group had in defining the “calm/content” emotional experience. For example, this emotion was described as “not feeling anything” or “being in between happy and sad.” One girl was not able to define this emotion at all. In contrast, girls who were not receiving treatment for conduct problems defined this emotion as “no worries, satisfied with the way everything is going, looking hopefully into the future” or “just relaxing and having a clear head.”

The third and fourth items were derived because one of the girls in the treatment group was not able to define a couple of words (e.g., calm/content, anger/frustration). When probed about lack of response, she had said that she just “didn’t know.” Although other girls in the treatment group produced definitions, they tended to lack depth. That is, they were short definitions that only weakly described the emotions. For example, one girl described happy and sad emotions respectively as, “when you feel good about yourself” and “when you feel bad about yourself.” In contrast, girls in the community group provided



definitions for all six emotions. Furthermore, their definitions tended to have more depth, describing more vividly how the emotions were experienced. For example, one girl described happy and sad emotions respectively as, “When you feel like there’s nothing that can bring you down. ‘Top of the world.’ Not only with materialistic things – friends/family” and “ When I concentrate on all the little things that are going wrong in my life, I get sad.”

Since the qualitative descriptions of the six emotions established that girls in the treatment group had greater difficulties defining emotions compared to girls in the community group, six additional items were created to a) obtain specific information regarding which type (i.e., positive or negative) of emotion may be easier or harder to describe, and b) gain more information about the role of peaceful emotions (See Appendix B).

*Parental Context of Emotional Experiencing.* Results in this section aided in the creation of 10 instrument items in the emotional functioning area of parental context of emotional experience. This area represents social aspects of emotion regulation. The ten items are as follows:

5. It is easy for me to think of pleasant experiences with my mom
6. I have more unpleasant experiences with my mom
7. It is difficult for me to think of pleasant experiences with my mom
8. I can easily think of pleasant experiences I have had with my dad
9. I cannot think of pleasant experiences I have had with my dad
10. I have few pleasant experiences with my dad
11. I am more likely to have unpleasant experiences with my mom than my dad



12. I have more pleasant experiences with my dad than with my mom

13. I can easily think of pleasant experiences I have had with both of my parents

14. I have had just as many unpleasant experiences with both of my parents

In the community group both parents were allocated equally 66 percent of the time in positive scenarios and fathers were allocated 33 percent of the time. Similarly, both parents were allocated equally 80 percent of the time, compared to 20 percent allocation for mothers in negative scenarios. Generally, the majority of recalled emotional experiences were with both parents fairly equally, with a slight increase of father representation in positive emotional experiences and a slight increase of mother representation in negative emotional experiences.

Parental emotional experiences were more varied for girls in the treatment group. In positive scenarios the percentage breakdown for both parents equally, fathers, mothers, and no parents indicated were respectively 40, 25, 10 and 25 percent. These variations were also seen in the negative scenarios. Where mothers were allocated more than fathers (40 compared to 25 percent), both parents were allocated 10 percent of the time, and 25 percent of the time no parents were allocated. Overall, the girls in the treatment group allocated both parents equally more than any other grouping for positive emotional experiences, and allocated mothers more than other grouping for negative emotional experiences.

Items five, six, seven and eleven were generated from the emotional experiences girls had with their mothers, specifically from the differences seen in allocations for mothers in both positive and negative scenarios. Items six and seven stem from the increased representation of mothers in negative emotional experiences for girls in the treatment group. Although girls in the community group indicated negative experiences with their





mothers, their representation was lower and generally indicated these experiences equally with both parents. Item five represents the reversal of seven, and would be expected to have greater response for girls in the community than in treatment. Item eleven was included to demonstrate the higher proportion of negative experiences indicated with girls' mothers compared to their fathers across both groups (community – 20 percent vs. not specifically allocated; treatment – 40 vs. 25 percent).

Items eight, nine, ten and twelve were created from girls' emotional experiences with their fathers. Item eight represents the community girls' indication of slightly more favorable positive experiences with fathers than with both parents equally. Additionally, community girls indicated more positive experiences with their fathers than did girls in treatment. Girls in the treatment group indicated Fathers more often in negative situations, whereas fathers were only represented in "both parents" category for girls in the community. Therefore, items nine and ten were included to capture the specific representation of negative emotional experiences with fathers in the treatment group. Item twelve was included to capture the greater representation of positive experiences with fathers compared to mothers across both groups. The community group specifically allocated fathers 33 percent of the time and did not allocate their mothers at all, whereas the treatment group specifically allocated fathers 25 percent of the time and only allocated mothers 10 percent of the time.

The last two items (13-14) in this section were derived from information regarding the allocation (or not) of both parents equally to positive and negative scenarios. Both items are expected to demonstrate differences between groups, since the allocation for "both parents" was more frequent in the community group for both positive and negative



emotional experiences. The thirteenth item will demonstrate the greater allocation for both parents in the community group; whereas the fourteenth item will be a reversal item for this group.

*Emotional Ratings & Regulation Strategies.* Seventeen items were developed from information regarding emotional ratings and frequency, intensity and type of regulation strategies. The first ten items pertain to emotion regulation/dysregulation, where as items 25–31 relate to frequency, intensity and type of emotion regulation strategies.

15. I can continue to make myself feel good when I am enjoying an activity
16. I have trouble maintaining a good feeling when I am enjoying an activity
17. Part of me feels bad even when I am doing something pleasant
18. I feel great when I am doing something pleasant
19. Any good feelings I have seem to go away when I feel bad
20. Nothing I do seems to make me feel better when I feel bad
21. Good feelings are still present even when I feel bad
22. I am able to make myself feel better when I feel bad
23. I can easily change how badly I feel in an unpleasant situation
24. I end up feeling worse when I try to make myself feel better
25. I try many things to make myself feel better when I feel bad
26. I only have to do a few things to make my bad feelings go away
27. I do less to keep my good feelings when I have them
28. I do extreme things when I feel bad
29. My actions express how I feel when I feel bad
30. I am more likely to distract myself than express my feelings when I feel bad



31. It would be hard for others to know that I feel bad

The first ten items (15-24) were derived from information provided by emotional ratings before and after engaging in regulation strategies in both positive and negative emotional experiences with parent(s). The emotional ratings of girls in both groups tended to show either maintenance or an increase of positive emotions during positive scenarios. Item number fifteen captures the regulation ability that is demonstrated fairly equally in both groups for positive emotions in positive scenarios. Item number sixteen, the reversal of item fifteen, was included to increase reliability as this item should act similarly for both groups. Items seventeen and eighteen highlight a discrepancy found between the groups for presence of negative emotions in positive scenarios. Girls in treatment tended to rate the presence of negative emotions during positive scenarios, and in most incidents these negative emotions were maintained or increased after engaging in regulatory strategies. In contrast, girls in the community group tended to not indicate the presence of negative emotions during positive scenarios.

The next four items (19-22) are supported by a pattern found in the presence of positive emotions during negative scenarios. Girls in both groups indicated the presence of positive emotions during negative scenarios. However, positive emotions for girls in the treatment group tended to decrease after regulating strategies have been employed. In contrast, positive emotions for girls in the community group generally increased after employing regulation strategies in negative scenarios. Thus, items nineteen and twenty represent the reduction of positive emotions and items twenty-one and twenty-two represent the increase of positive emotions during negative situations.





Items twenty-three and twenty-four were derived from the pattern of emotional ratings of negative emotions in negative scenarios. In general, girls in the treatment group indicated greater negative emotional presence compared to girls in the community group. The largest distinction between the groups was the tendency for girls in the treatment group to maintain or increase their negative emotions, whereas girls in the community group tended to indicate a decrease of negative emotions after employing regulation strategies. These opposite patterns suggest dysregulation/regulation respectively and informed the generation of items twenty-three and twenty-four.

The remaining items (25-31) were created from information regarding the frequency, intensity and type of emotion regulation strategies employed by girls in both groups. The number of strategies employed in positive scenarios was quite similar for both groups, in that the ranges of strategies employed for community (9-14) and treatment (9-16) groups. However, the number of strategies employed drastically increased for the treatment group (15 - 44) compared to the community group (7-17) in negative scenarios. Items twenty-five, twenty-six and twenty-seven capture this pattern.

The remaining items (28-31) in this section refer to the types of strategies that were employed by girls in both groups. As reported, the number of strategies employed was greater for girls in the treatment group. These increased numbers added such behavioral strategies as running away from home, throwing things, breaking things, punching things, yelling and screaming. Girls in the community group rarely endorsed these more extreme behaviors, which informed items twenty-eight and twenty-nine. The types of strategies employed by the girls in the community were more likely to decrease attention towards them, such as hiding or ignoring their feelings, isolating themselves, talking or going out



with friends, moping and low energy body posture, and crying. Although girls in the treatment group also indicated some of these strategies, they were accompanied with more extreme behaviors. Thus, items thirty and thirty-one reflect more typical responses from girls in the community group.

*Regulation Expectations & Success.* Seven items were created in this area by examining the presence or absence of written goals and expectations for regulating emotions, as well as by examining the patterns of goal success ratings for positive and negative scenarios.

32. I am not sure what to expect when I behave the way I do

33. I know what will happen when I behave the way I do

34. I cannot tell if my actions get me what I want

35. I can tell if my actions are getting me what I want

36. No matter what I do when I feel bad, I am not successful in getting what I want

37. I act in ways that help me to get my way in every situation

38. I am confident that whatever I do my expectations will be met

For each scenario participants were asked to write what they had expected to happen when they used their chosen regulatory strategies for positive and negative scenarios. The girls in the community group wrote their expectations for each situation. However, some girls in the treatment group were unable to generate any expectations. This finding led to the creation of items thirty-two and thirty-three to reflect the possibility that some girls in treatment are unaware of what would happen when they engage in regulatory strategies compared to girls in the community group. Similarly, some girls in the treatment group did not rate success obtained in meeting their goals and expectations. Therefore, item numbers



thirty-four and thirty-five were created to reflect the difficulty in determining whether or not goals and expectations have been met through regulatory strategies for girls in the treatment group, and the ease at which girls in the community rated their success.

Patterns in success ratings across positive and negative scenarios were examined for both groups. Results indicated that girls in the treatment group rated greater success in meeting their expectations in positive scenarios than in negative scenarios. Therefore, item number thirty-six reflects difficulty in meeting goals when girls in treatment are attempting to regulate negative emotions. In contrast, girls in the community group rated equal success in positive and negative scenarios. The pattern of success indicated by girls in the community group was captured in the final two items (37-38) for this area.

*Regulation Alternatives.* Four items were created for this area of emotional functioning by examining the presence and absence of alternatives generated for positive and negative scenarios. Generating alternatives is a cognitive task that requires reflection and evaluation of personal success, failure or effectiveness in alleviation of negative emotions or enhancement of positive emotions in each of the scenarios. Such cognitive tasks can indicate flexibility, adaptability and future learning.

39. I find it hard to think of new ways to express my emotions

40. I can easily think of news ways to express my emotions

41. If at first I don't succeed, I find other ways to show my emotions

42. I continue to show my emotions in the same ways even if they are not successful

The intra-individual response pattern was similar for girls in both groups, in that girls from each group responded consistently for all four scenarios. That is, they either attempted to generate alternatives across scenarios or generated nothing. The majority of the girls in



the treatment group failed to generate any alternative ways to show their emotions. Only one girl listed “Talking about how I feel” as an alternative for showing positive emotions to her dad, and “ Talking to my mom” for showing negative emotions to her mom. The absent/present response style differences in these groups was captured in items thirty-nine and forty.

The final two items generated combined the girls’ success ratings with the generation of alternative regulation strategies. Girls in the community group reported overall greater success with their regulating strategies than girls in the treatment group. Additionally, girls in the community group generated alternative strategies to become more successful in their goals, whereas girls in the treatment group did not. The pattern differences observed when these two areas are combined are reflected in items forty-one for the community group and forty-two for the treatment group.

Even though the majority of girls in the community group did generate alternative ways that they could show their positive (e.g., show emotions more) and negative (e.g., talked to parents, compromised) emotions, it is not known whether the alternatives generated are actually employed. Therefore, two items (Appendix B) were created to explore whether an active search for other regulation strategies was engaged and enacted upon in order to successfully meet goals and expectations in similar future situations, or whether ability to generate other alternatives while not in the situation was unrelated to actually engaging in new strategies when a similar situation presents itself.

### *Level of Conduct Scale*

Conduct level values were compared between girls in community and treatment groups to determine whether girls in treatment reported engaging in higher levels of





misconduct. Girls in the community group reported lower levels of misconduct with their value levels ranging from 10-20, whereas girls in the treatment group reported misconduct value levels ranging between 24-37. Since this scale emulated symptoms characteristic of Oppositional Defiant Disorder and Conduct Disorder, the severity of misconduct reported was also evaluated. The girls in the community reported more incidents of less severe misconduct (e.g., become angry and resentful, deliberately annoy people) compared to girls in treatment who reported such conduct as destroying others' property, running away from home, and stealing without causing harm to someone. The conduct reported from girls in treatment align with symptoms seen in Conduct Disorder, whereas the girls in the community group endorsed those behaviors more commonly associated with oppositional/defiant disorder.



## Discussion

Emotional experiences of female adolescents receiving treatment for conduct problems documented by Kostiuk & Fouts (2002) were revisited to contribute to the formulation of four parent-adolescent scenarios, which provided the base structure for the Emotion Regulation Indicator. The ERI incorporated cognitive, behavioral, emotional, and social domains of human functioning to obtain comprehensive information regarding emotion regulation processes in adolescent girls. These domains were captured in five areas of emotional functioning: 1) Understanding of Emotions, 2) Parental Context of Emotional Experiencing, 3) Emotional Ratings & Regulation Strategies, 4) Regulation Expectation & Success and 5) Regulation Alternatives. The ERI provided qualitative and quantitative data that was examined for patterns and indicators of emotion regulation in these five areas of emotional functioning for adolescent girls in community and treatment groups. These patterns informed the development of fifty instrument items for future scale development and hypothesis testing; forty-two items are presented in the Results section and eight are presented in Appendix B.

The first area of emotional functioning, Understanding of Emotions, required the girls to cognitively process the meanings of emotions and describe those meanings qualitatively in written form. This task was found to be more difficult for girls in the treatment group compared to the community group. Girls in the treatment group lacked depth in their responses, whereas girls in the community group provided lengthy responses that described the six emotions in great detail. These findings suggest that girls in the treatment group may not be as capable as the girls in the community group in processing or defining their emotions. Dodge & Newman (1981) found that aggressive children attended less to social



cues, which resulted in pre-mature advancement to other information processing steps, such as choosing or enacting a response. Therefore it is possible that individuals who have aggressive tendencies may also attend to and process their emotions less before advancing to other processing steps, e.g., enactment. Impulsivity or reacting quickly to emotional information may actually hinder one's ability to understand and verbalize the meaning of experienced emotions. The four instrument items that were created from ERI patterns, as well as the 6 exploratory items, reflect the difficulties girls in the treatment group had in understanding emotions.

The second area of emotional functioning, Parental Context of Emotional Experiencing, emphasized social processes from which emotional experiences were elicited and responded to in the ERI. Girls indicated which parent (i.e., mother, father, both equally) their emotional experiences pertained to for each of the four scenarios. Responses suggested that girls in the community group were more likely to draw upon emotional experiences that pertained to both parents equally. On the other hand, the emotional experiences of girls from the treatment group tended to have a more varied pattern. These differences likely reflect the differences in family status amongst the two groups. Girls in the community group were from families that had been together for 20 years or more. In contrast, only a couple of girls from the treatment group had intact families. Moreover, a parent from one family was away from home serving prison time. The remaining girls in the treatment group reported that their parents had been divorced, ranging from 2 – 15 years.

Instability in families can decrease the time and/or quality of time children have to spend with both parents and may contribute to the varying emotional experiences (positive





and negative) experienced with each parent (Cummings & Davies, 1996). Since the ability to regulate emotions is thought to develop within parent-child relationships (e.g., Kopp, 1989), the instability seen in family status for the girls in the treatment group may contribute to the variance found in their emotional experiences with their parents and to the dysregulation of emotions. Ten instrument items were created in this area of emotional functioning to represent the consistent or variant emotional experiences identified by girls in the community and treatment group respectively.

The third area of emotional functioning, Emotional Ratings & Regulation Strategies, examined emotional ratings before and after behavioral emotion regulation strategies were employed. This quantified data demonstrated: 1) whether negative and positive emotions were regulated (i.e., reduced negative; maintained or enhanced positive) or dysregulated (i.e., unabated negative; reduced positive); 2) the frequency of strategies employed; and 3) the type of strategies employed. Patterns that arose in this area informed the creation of seventeen instrument items.

The most interesting finding was the consistent presence of negative emotions during positive interactions between girls in the treatment group and their parents. More than one girl alluded to feeling confused during positive interactions with their parents. The confusion and stability of negative emotions may indicate that these girls in general experience fewer positive interactions with their parents. Bowlby (1969) believed the parent-child relationship was the context in which children learned how to organize and regulate their emotional experiences. He argued that this relationship was crucial in how children developed expectancies and coping strategies for emotional experiences. Perhaps past interactions the girls in the treatment group have had with their parents were not a



source of pleasure. Therefore, their expectations elicited caution and uncertainty in their approach to positive interactions with their parents, contributing to the presence and dysregulation of negative emotions.

Furthermore, girls in the treatment group demonstrated dysregulation of negative emotions by choosing several extreme behavioral strategies (e.g., kicking, breaking things, throwing things, running away) to express themselves compared to the regulation strategies chosen by girls in the community group (e.g., talking to friends, walking, listening to music). The reliance on these more extreme behaviors is consistent with research that has found that when emotions are frequently regulated through aggressive responses they are more likely to be chosen to regulate emotions in future social interactions (Asarnow & Callan, 1985; Feldman & Dodge, 1987). Therefore, girls in the treatment group may have a limited repertoire of strategies available. These strategies have been habitually employed in attempts to regulate their emotions, despite the recognition that they are not very successful.

The fourth area of emotional functioning examined by the ERI was Regulation Expectations & Success. This area required girls to conceptualize a cause-effect sequence in relation to how they were demonstrating their emotions to their parent(s) and what they had hoped to happen. Some girls in the treatment group were unable to conceptualize this sequence and therefore could not state expectations/goals, nor could they rate how successful their regulatory strategies were in the scenarios presented. Parenting behaviors have been found to have pervasive and generalized effects on such child behaviors as aggression and delinquency (Bergman, & Walker, 1995). Children have been found to be at risk for impaired intellectual functioning when relationships with parents have been based



on negative interactions. The girls in the treatment group were found to have varied emotional experiences with their parents, suggesting an unpredictable or unstable relationship. These results could indicate that girls in the treatment group have had more negative interactions with their parents, and this interactional style could contribute to a limited cognitive capacity for consequence sequencing or a lack of personal awareness. Inability to understand cause and effect or foresee consequences of behavior may contribute to the reliance that girls in the treatment group tended to have on unsuccessful strategies to regulate their emotions. Seven instrument items were developed in this area to represent these possibilities in measuring emotion regulation.

Regulation Alternatives was the fifth area of emotional functioning examined by the ERI. Tapping again into the cognitive domain, the girls were asked to produce alternative regulating strategies that they could have engaged in to have their expectations met in each of the presented scenarios. The majority of the girls in the treatment group failed to generate any alternatives. Conversely, the majority of girls in the community group generated alternative ways to regulate their emotions in most of the presented scenarios. Two instrument items were created to capture these patterns. Responses from this section were also combined with responses from the Regulation Expectations & Success area to generate two items. Two exploratory items were also created (Appendix B) to explore possible reasons for findings in this area.

The lack of alternative strategies could indicate that the girls in the treatment group have no other alternatives to choose from, that they perceive their strategies as the best way that they know how to respond, or that they would rather continue to use their current strategies even though they are less successful. These speculations are consistent with



findings that indicate aggressive children are not as systematic in processing social information (Asarnow & Callan, 1985; Dodge & Newman, 1981; Feldman & Dodge, 1987). That is, they may make pre-mature interpretations and quickly move into enacting by employing previously used strategies, suggesting that thorough processing does not occur limiting opportunities for alternative strategies to be assessed and chosen. Evidently, current regulating strategies used by girls in the treatment group have not been successful in abating their negative emotions. Without active searching for new regulating strategies their ability to break the cycle of emotional dysregulation is jeopardized.

Emotion regulation failures seen in girls with conduct problems relative to girls in the community could form the basis of treatment planning and delivery based on the five areas of emotional functioning examined in this study. These areas encompassed emotional, behavioral, cognitive, and social domains of emotion regulation, thus indicating that girls with conduct problems are experiencing emotion regulation failures across these domains. Therefore, assessing emotion regulation abilities across emotional, social, cognitive and behavioral domains may help to produce individual treatment plans that are more responsive to the needs of adolescent females struggling with conduct problems. Thus, treatment approaches that address more than one domain (e.g., behavioral) may prove to be more effective in treating females with conduct problems.

### *Limitations & Future Research*

Information collected by the Emotion Regulation Indicator informed the development of fifty instrument items to measure emotion regulation and conduct future hypothesis testing. In future research, it would be important to consider the addition of a depression screener. Both externalized and internalized behaviors can indicate emotional





dysregulation. However, depression research has found that in adolescence depression can sometimes appear atypically like externalized behavior rather than the typical internalized behavior. Therefore, a depression screener would indicate whether or not depression is contributing to the externalized behaviors seen in the adolescent population receiving treatment for conduct problems.

Future directions for emotion regulation research include devising a scale with the fifty items formulated for this study and determining its reliability and validity through various phases of research. Suggestions to accomplish the next steps in emotional regulation research include, 1) determining criterion validity through simultaneous testing of the emotion regulation scale and specific criterion scales (e.g., Cognitive Emotion Regulation Questionnaire), 2) retest portions of participants to obtain test-re-test reliability information, 3) norm the emotion regulation instrument by administering the scale to various (e.g., university students, community adolescents) high emotional functioning individuals and 4) hypothesis test the emotion regulation scale with a greater number of participants, various treatment populations (e.g., depressed, eating disorders) and including both genders (males vs. females) in the population samples.

### *Conclusion*

For the purposes of this study, the Emotion Regulation Indicator (ERI) was developed, pre-tested and administered to adolescent females involved in treatment programs for conduct problems or residing in a local community. Results showed that girls from the community group were better than girls in the treatment group at reducing negative emotions and maintaining or increasing positive emotions. Collecting information from groups that vary in emotion regulation ability helped to conceptualize



instrument items that would measure emotion regulation and discriminate between those with greater or lesser regulating ability. The five areas of emotional functioning provided a structure in which information regarding emotion regulation ability was gathered in cognitive, behavioral, emotional, and social domains. The patterns observed in data collected from the ERI have resulted in forty-two items, which combined with the eight exploratory items, produced a fifty-item instrument suitable for psychometric evaluation as a measure of emotion regulation.



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## Appendix A

### Understanding Emotions in Adolescence

The following questions are personal. Remember that this information is confidential and will not be used to identify you personally and will only be used in grouped information along with the other participants' answers. Please **answer** each question to the best of your knowledge.

Date of Birth(dd/mm/yyyy): \_\_\_\_\_ Date of Participation(dd/mm/yyyy): \_\_\_\_\_

For this survey, the term "parents" will refer to (circle one): biological   adoptive   foster   other: \_\_\_\_\_

If adoptive/foster, how long have you been in their care: \_\_\_\_\_

Date of last contact with your Mother: \_\_\_\_\_

Date of last contact with your Father: \_\_\_\_\_

Are your parents (circle one): together   separated   divorced

How long have they been together, separated, or divorced (approx. years/months)? \_\_\_\_\_

Where do you live or who with (circle one): family   friends   extended family   program elsewhere: \_\_\_\_\_

In the past year, how many times did you:

|                                                  |   |       |       |      |
|--------------------------------------------------|---|-------|-------|------|
| Lose your temper                                 | 0 | 1 - 9 | 10-20 | 21 + |
| Argue with adults                                | 0 | 1 - 9 | 10-20 | 21 + |
| Refuse to comply with adult requests             | 0 | 1 - 9 | 10-20 | 21 + |
| Deliberately annoy people                        | 0 | 1 - 9 | 10-20 | 21 + |
| Blame others for your mistakes or misbehavior    | 0 | 1 - 9 | 10-20 | 21 + |
| Get annoyed easily by others                     | 0 | 1 - 9 | 10-20 | 21 + |
| Become angry or resentful                        | 0 | 1 - 9 | 10-20 | 21 + |
| Act spiteful or vindictive                       | 0 | 1 - 9 | 10-20 | 21 + |
| Threaten or intimidate others                    | 0 | 1 - 9 | 10-20 | 21 + |
| Initiate physical fights                         | 0 | 1 - 9 | 10-20 | 21 + |
| Use a weapon that may have caused serious harm   | 0 | 1 - 9 | 10-20 | 21 + |
| Act physically cruel to others                   | 0 | 1 - 9 | 10-20 | 21 + |
| Act physically cruel to animals                  | 0 | 1 - 9 | 10-20 | 21 + |
| Steal when confronting someone (e.g. mugging)    | 0 | 1 - 9 | 10-20 | 21 + |
| Force someone into sexual activity               | 0 | 1 - 9 | 10-20 | 21 + |
| Deliberately set a fire to cause damage          | 0 | 1 - 9 | 10-20 | 21 + |
| Deliberately destroy others' property            | 0 | 1 - 9 | 10-20 | 21 + |
| Break into someone's property                    | 0 | 1 - 9 | 10-20 | 21 + |
| Lie to obtain goods, favors or avoid obligations | 0 | 1 - 9 | 10-20 | 21 + |



|                                                |   |       |       |      |
|------------------------------------------------|---|-------|-------|------|
| Steal from someone without causing harm/damage | 0 | 1 - 9 | 10-20 | 21 + |
| Disobey parental curfew                        | 0 | 1 - 9 | 10-20 | 21 + |
| Run away from home                             | 0 | 1 - 9 | 10-20 | 21 + |
| Skip school/classes                            | 0 | 1 - 9 | 10-20 | 21 + |



### Emotion Regulation Indicator (ERI)

Understanding how you define certain emotions or feelings is very important. Using your own words, please **Define** the following as best as you can.

Love:

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Hate/Dislike:

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Happy:

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Sad:

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Calm/Content:

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Anger/Frustration:

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In the following pages, you will be asked to think about four different situations that you have had with your parent(s) in the past year. Then you will be asked to answer a series of questions about your experiences with those situations. Please remember to link your responses to each separate situation.

Situation 1

**Think** of a time when you bonded with your parent(s). For example, when you spent time together doing something that was mutually enjoyable (e.g., going shopping, watching a movie, or going for a walk in the country).

With the above situation in mind, please **Rate** the extent that you felt each of the following feelings:

|                   | None | Very little | Somewhat | Very much | Completely |            |
|-------------------|------|-------------|----------|-----------|------------|------------|
| Love              | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Hate/Dislike      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Happy             | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Sad               | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Calm/Content      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Anger/Frustration | 0    | 1           | 2        | 3         | 4          | Don't Know |

Please **List** and **Rate** any other emotions that you experienced that are not listed above:

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |

Please **Circle** one of the following choices:

Which parent would you relate this experience to the most: Mom   Dad   Both Equally

In the above situation, how did you show what you were feeling?

Please **Circle** all actions that describe what you did to show your feelings.

|                      |                            |                         |       |
|----------------------|----------------------------|-------------------------|-------|
| Do Nothing           | Reveal your feelings       | Respect parent requests | Cry   |
| Go for a walk        | Do something nice          | Isolate self            | Smile |
| Hang out with parent | Give hugs                  | Throw Things            | Swear |
| Hide feelings        | Give kisses                | Listen to music         | Kick  |
| Slam doors           | Buy something nice to give | Mope around             | Laugh |
| Talk about activity  | Make something to give     | Droopy body posture     | Glare |





|                     |                     |                                 |
|---------------------|---------------------|---------------------------------|
| Lowered eye gaze    | Go for bike ride    | Punch things                    |
| Ignore surroundings | Scream              | Do something to spite parent(s) |
| Talk to parent      | Run away from home  | Beat up pillow                  |
| Bang on things      | Talk to friends     | Break things                    |
| Yell                | Go out with friends | Ignore feelings                 |

Is there anything else that you did that is missing from the above list? If so, please use the space provided below to **List** any other actions or ways that you showed your feelings in this situation with your parents.

Now, I would like you to **Re-Rate** the extent that you felt each of the following feelings after you showed them in the ways that you indicated above:

|                   | None | Very little | Somewhat | Very much | Completely |            |
|-------------------|------|-------------|----------|-----------|------------|------------|
| Love              | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Hate/Dislike      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Happy             | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Sad               | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Calm/Content      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Anger/Frustration | 0    | 1           | 2        | 3         | 4          | Don't Know |

Please **List** and **Rate** any other emotions that need to be re-rated to capture your experience:

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |

In this situation please **Describe** what you were hoping would happen by showing your feelings in the ways that you did:



Please **Rate** how successful you thought you were in getting what you had hoped for in this situation:

|  | Not at all | Very little | Somewhat | Very much | Completely |            |
|--|------------|-------------|----------|-----------|------------|------------|
|  | 0          | 1           | 2        | 3         | 4          | Don't Know |

Use the space below to **List** any alternative ways that you could have shown your emotions to your parent(s) in order to get what you had hoped for in this situation.

Now you are moving onto the second situation, please remember to link your next answers to this situation.

Situation 2

**Think** of a time when you have been let down by your parent(s). For example, when you were made to believe that you would get some one-on-one special time with your parent(s) but then it never happened.

With the above situation in mind, please **Rate** the extent that you felt each of the following feelings:

|                   | None | Very little | Somewhat | Very much | Completely |            |
|-------------------|------|-------------|----------|-----------|------------|------------|
| Love              | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Hate/Dislike      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Happy             | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Sad               | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Calm/Content      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Anger/Frustration | 0    | 1           | 2        | 3         | 4          | Don't Know |

Please **List** and **Rate** any other emotions that you experienced that are not listed above:

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |

Please **Circle** one of the following choices:  
Which parent would you relate this experience to the most: Mom   Dad   Both Equally



In the above situation, how did you show what you were feeling?  
Please **Circle** all actions that describe what you did to show your feelings.

|                      |                            |                                 |       |
|----------------------|----------------------------|---------------------------------|-------|
| Do Nothing           | Reveal your feelings       | Respect parent requests         | Cry   |
| Go for a walk        | Do something nice          | Isolate self                    | Smile |
| Hang out with parent | Give hugs                  | Throw Things                    | Swear |
| Hide feelings        | Give kisses                | Listen to music                 | Kick  |
| Slam doors           | Buy something nice to give | Mope around                     | Laugh |
| Talk about activity  | Make something to give     | Droopy body posture             | Glare |
| Lowered eye gaze     | Go for bike ride           | Punch things                    |       |
| Ignore surroundings  | Scream                     | Do something to spite parent(s) |       |
| Talk to parent       | Run away from home         | Beat up pillow                  |       |
| Bang on things       | Talk to friends            | Break things                    |       |
| Yell                 | Go out with friends        | Ignore feelings                 |       |

Is there anything else that you did that is missing from the above list? If so, please use the space provided below to **List** any other actions or ways that you showed your feelings in this situation with your parents.

Now, I would like you to **Re-Rate** the extent that you felt each of the following feelings after you showed them in the ways that you indicated above:

|                   | None | Very little | Somewhat | Very much | Completely |            |
|-------------------|------|-------------|----------|-----------|------------|------------|
| Love              | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Hate/Dislike      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Happy             | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Sad               | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Calm/Content      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Anger/Frustration | 0    | 1           | 2        | 3         | 4          | Don't Know |



Please **List** and **Rate** any other emotions that need to be re-rated to capture your experience:

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |

In this situation please **Describe** what you were hoping would happen by showing your feelings in the ways that you did:

Please **Rate** how successful you thought you were in getting what you had hoped for in this situation:

|            |             |          |           |            |            |
|------------|-------------|----------|-----------|------------|------------|
| Not at all | Very little | Somewhat | Very much | Completely |            |
| 0          | 1           | 2        | 3         | 4          | Don't Know |

Use the space below to **List** any alternative ways that you could have shown your emotions to your parent(s) in order to get what you had hoped for in this situation.

Now you are moving onto the third situation, please remember to link your next answers to this situation.

Situation 3

**Think** of a time when your parent(s) comforted you. For example, when you were sick and your parent(s) helped you/stayed by your side until you were well again; or when you were disappointed with something (e.g., friend, grade) and your parent(s) listened to you.

With the above situation in mind, please **Rate** the extent that you felt each of the following feelings:

|                   |      |             |          |           |            |            |
|-------------------|------|-------------|----------|-----------|------------|------------|
|                   | None | Very little | Somewhat | Very much | Completely |            |
| Love              | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Hate/Dislike      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Happy             | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Sad               | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Calm/Content      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Anger/Frustration | 0    | 1           | 2        | 3         | 4          | Don't Know |





Please **List** and **Rate** any other emotions that you experienced that are not listed above:

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |

Please **Circle** one of the following choices:

Which parent would you relate this experience to the most: Mom   Dad   Both Equally

In the above situation, how did you show what you were feeling?

Please **Circle** all actions that describe what you did to show your feelings.

|                      |                            |                                 |       |
|----------------------|----------------------------|---------------------------------|-------|
| Do Nothing           | Reveal your feelings       | Respect parent requests         | Cry   |
| Go for a walk        | Do something nice          | Isolate self                    | Smile |
| Hang out with parent | Give hugs                  | Throw Things                    | Sweat |
| Hide feelings        | Give kisses                | Listen to music                 | Kick  |
| Slam doors           | Buy something nice to give | Mope around                     | Laugh |
| Talk about activity  | Make something to give     | Droopy body posture             | Glare |
| Lowered eye gaze     | Go for bike ride           | Punch things                    |       |
| Ignore surroundings  | Scream                     | Do something to spite parent(s) |       |
| Talk to parent       | Run away from home         | Beat up pillow                  |       |
| Bang on things       | Talk to friends            | Break things                    |       |
| Yell                 | Go out with friends        | Ignore feelings                 |       |

Is there anything else that you did that is missing from the above list? If so, please use the space provided below to **List** any other actions or ways that you showed your feelings in this situation with your parents.



Now, I would like you to **Re-Rate** the extent that you felt each of the following feelings after you showed them in the ways that you indicated above:

|                   | None | Very little | Somewhat | Very much | Completely |            |
|-------------------|------|-------------|----------|-----------|------------|------------|
| Love              | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Hate/Dislike      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Happy             | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Sad               | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Calm/Content      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Anger/Frustration | 0    | 1           | 2        | 3         | 4          | Don't Know |

Please **List** and **Rate** any other emotions that need to be re-rated to capture your experience:

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |

In this situation please **Describe** what you were hoping would happen by showing your feelings in the ways that you did:

Please **Rate** how successful you thought you were in getting what you had hoped for in this situation:

| Not at all | Very little | Somewhat | Very much | Completely |            |
|------------|-------------|----------|-----------|------------|------------|
| 0          | 1           | 2        | 3         | 4          | Don't Know |

Use the space below to **List** any alternative ways that you could have shown your emotions to your parent(s) in order to get what you had hoped for in this situation.



Now you are moving onto the fourth situation, please remember to link your next answers to this situation.

Situation 4

**Think** of a time when your parent(s) pried into your personal life, which resulted in your not being allowed to do something that you wanted. For example, being asked several questions about where you were going, whom you were going with, and when you were going to be back. You were not believed, so you were not allowed to do what you had planned.

With the above situation in mind, please **Rate** the extent that you felt each of the following feelings:

|                   | None | Very little | Somewhat | Very much | Completely |            |
|-------------------|------|-------------|----------|-----------|------------|------------|
| Love              | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Hate/Dislike      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Happy             | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Sad               | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Calm/Content      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Anger/Frustration | 0    | 1           | 2        | 3         | 4          | Don't Know |

Please **List** and **Rate** any other emotions that you experienced that are not listed above:

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |

Please **Circle** one of the following choices:  
Which parent would you relate this experience to the most: Mom   Dad   Both Equally

In the above situation, how did you show what you were feeling?  
Please **Circle** all actions that describe what you did to show your feelings.

|                      |                            |                         |       |
|----------------------|----------------------------|-------------------------|-------|
| Do Nothing           | Reveal your feelings       | Respect parent requests | Cry   |
| Go for a walk        | Do something nice          | Isolate self            | Smile |
| Hang out with parent | Give hugs                  | Throw Things            | Swear |
| Hide feelings        | Give kisses                | Listen to music         | Kick  |
| Slam doors           | Buy something nice to give | Mope around             | Laugh |



|                     |                        |                                 |       |
|---------------------|------------------------|---------------------------------|-------|
| Talk about activity | Make something to give | Droopy body posture             | Glare |
| Lowered eye gaze    | Go for bike ride       | Punch things                    |       |
| Ignore surroundings | Scream                 | Do something to spite parent(s) |       |
| Talk to parent      | Run away from home     | Beat up pillow                  |       |
| Bang on things      | Talk to friends        | Break things                    |       |
| Yell                | Go out with friends    | Ignore feelings                 |       |

Is there anything else that you did that is missing from the above list? If so, please use the space provided below to **List** any other actions or ways that you showed your feelings in this situation with your parents.

Now, I would like you to **Re-Rate** the extent that you felt each of the following feelings after you showed them in the ways that you indicated above:

|                   | None | Very little | Somewhat | Very much | Completely |            |
|-------------------|------|-------------|----------|-----------|------------|------------|
| Love              | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Hate/Dislike      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Happy             | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Sad               | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Calm/Content      | 0    | 1           | 2        | 3         | 4          | Don't Know |
| Anger/Frustration | 0    | 1           | 2        | 3         | 4          | Don't Know |

Please **List** and **Rate** any other emotions that need to be re-rated to capture your experience:

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |
| _____ | 0 | 1 | 2 | 3 | 4 |





In this situation please **Describe** what you were hoping would happen by showing your feelings in the ways that you did:

Please **Rate** how successful you thought you were in getting what you had hoped for in this situation:

Not at all    Very little    Somewhat    Very much    Completely

0            1            2            3            4            Don't Know

Use the space below to **List** any alternative ways that you could have shown your emotions to your parent(s) in order to get what you had hoped for in this situation.

**Thank you for your participation.**



## Appendix B

### Additional Instrument Items

#### *Understanding of Emotions*

1. It is easy for me to describe negative feelings
2. Negative feelings are difficult to describe
3. Pleasant feelings are easy for me to describe
4. It is difficult to describe pleasant feelings
5. I understand peaceful emotions
6. I experience peaceful emotions

#### *Regulation Alternatives*

7. The way that I approach a situation is usually the best way
8. I can think of better ways to show my emotions, but I don't act upon them

















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